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ABSTRACT

Activities and concerns of Ford Foundation supported population research and training centers are described in this report. The centers are concerned with population growth, consequences of growth for human welfare, forces that determine family planning, interrelations among population variables, economics of contraceptive distribution, and population trends and birth control programs. The chapter on education and training presents information on population dynamics, demographic training, population communications, and family planning programs. Research collaboration and population education through the use of case studies are discussed in the chapter on service to developing nations. A chapter on research provides information on European birth rates, economic factors, contraception, family variables, and urbanization. In the last chapter, the prediction is made that the responsibility for research on population problems will shift to universities and institutions in developing nations, while governmental and philanthropic institutions in the industrial world will continue to support advanced training for demographers and advanced research tools. A listing of the 44 principal grants which have been made to centers for research and training on world population problems from 1954-76 and a directory of trustees and executive officers are included. (Author/DB)

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Understanding Population

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One of a series of reports on activities supported by the Ford Foundation. A complete list of Foundation publications may be obtained from the Foundation's Office of Reports, 320 East 43 Street, New York, New York 10017.

Text by Ira Mothner

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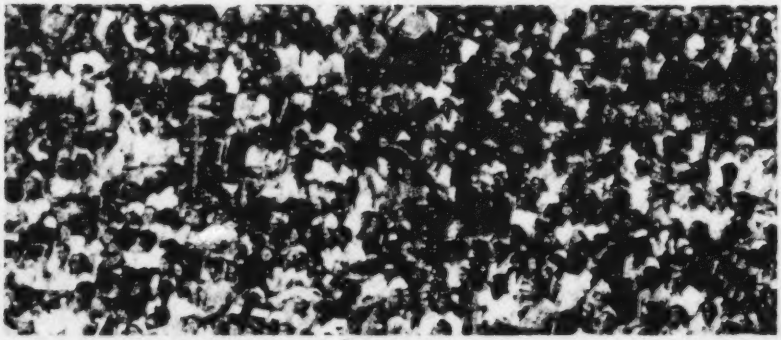
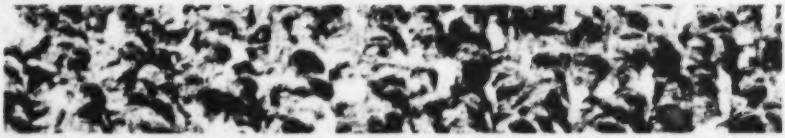


DR. OLUKUNLE ADEGBOLA, a young lecturer in population geography at the University of Lagos in Nigeria, came to Princeton University for a year's advanced training in demography in 1972. Earlier he had earned his doctorate at the University of Ibadan, and then had helped plan census coverage and surveyed housing patterns in the capital city of Lagos.

In this work Dr. Adegbola concentrated on distribution patterns—where people are and how they got there. In particular, he studied the large-scale migration from country to town that is characteristic of Nigeria and most other developing countries. This research heightened his interest in another aspect of population—growth rates. It was to learn more about the patterns of fertility, mortality, and age structure that Dr. Adegbola went to Princeton.

Princeton's Office of Population Research is one of a dozen American centers providing research and training on the social science aspects of world population problems. These centers are a major source of new information about population growth and urbanization, and they are a primary training ground for family-planning officials, research workers, population policy analysts, and teachers of demography throughout the world.

Support of these centers has been a major component of the Ford Foundation's efforts in the population field for some twenty years. This report describes some of their work.



Shifting Focus

World population, little more than 1.5 billion when this century began, may pass the 7 billion mark before it ends. The cost of meeting the nutritional and resource needs of the men, women, and children who constitute these steadily increasing numbers is already immense. Accommodating humanity's future billions is bound to have a massive impact on the environment, the world economy, the aspirations of developing nations, and the equality of life everywhere.

Students of population change realize that attempting to curb humanity's increase is, as one remarked, "truly an audacious notion." No species has ever before been capable of controlling its numbers by its own conscious efforts, yet the need to do so is widely, though not universally, acknowledged. There is a momentum to growth, and even a sudden plummeting of fertility down to the "replacement" level (with favorable mortality, just over two children per women, on average) could not prevent the addition of at least 3 billion people by the next century.

Population is no longer as sensitive a subject as it was twenty-five years ago. When the Ford Foundation began intensive work in reproductive biology research and training in the early 1960s, support from government and other private groups was minimal. For several years, the Foundation was the largest single source of support, but now the United States government far surpasses the Foundation's and all other private contributions. Now, too, efforts to understand and do something about population problems engage a great number of men and women throughout the world—biological scientists, administrators, social scientists, and government officials.

In the last ten years, especially, financial support for work on population problems has expanded and diversified. Biomedical research—

the search for contraceptive devices and methods that are effective, safe, cheap, and widely acceptable—is perhaps the most dramatic part of the struggle to understand and cope with onrushing population growth.

Development and testing of contraceptive devices is being done by fifteen to twenty pharmaceutical firms, but most of the research in reproductive science relevant to fertility control, and practically all of the related training, takes place in laboratories and clinics affiliated with universities. These activities are centered in the United States, Europe, Israel, Australia, and Japan, but considerable efforts are also being made in the developing world.

The issues associated with population are as political, social, and economic as they are scientific. At the United Nations World Population Conference, held in Bucharest, Rumania, during August of 1974, for example, representatives of many young and struggling nations insisted that population growth was not a real problem, and certainly not a major one. What prevented them from achieving more satisfactory economic development, they asserted, was inequitable distribution of the world's wealth and resources, the present international economic order, and "superconsumption" by the industrialized nations. Yet, although the Bucharest Conference failed to stress the critical nature of population as a factor in national development, family planning was recognized as essential to family health and welfare, international cooperation was encouraged, and the expansion of international assistance endorsed. The participants at Bucharest also generally agreed on the adverse effects of rapid urbanization—loss of rural manpower, damage to the environment, imbalance in the growth of urban centers.

Such concerns indicate the varied public-policy implications of population growth and change. Social science research on these issues has been stressed increasingly since 1970.

Among the problems social scientists are trying to shed light on are:

—the factors that determine population growth,

—the consequences of growth for human welfare,

—the psychological, social, economic, and cultural forces that either encourage fertility or motivate parents to limit family size,

—the interrelations among population variables, e.g., the discovery that a nation's age structure (and hence the burden of dependency) is determined primarily by fertility and not by mortality, as had previously been thought,

—the economics of contraceptive distribution,

—the measurement of population trends and of the effectiveness of birth control programs in countries where census-taking and registration of births are not uniformly reliable.

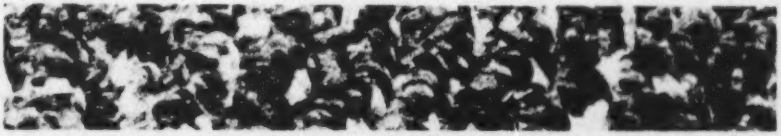
Most of the research, and the training of population specialists throughout the world, is conducted by university-based population studies centers. In addition, the staffs of these centers collaborate with field specialists all over the world.

Because of the increased attention given to social science aspects of population growth, the Ford Foundation's emphases have shifted accordingly. Whereas support for biological research and training has accounted for more than half the Foundation's population budget over the past decade, the proportion will decrease in the future.* Support of work in reproductive biology remains significant, however. It includes assistance for a major international network of clinical investigators—the Population Council's International Committee for Contraceptive Research (ICCR). They are testing new forms of the intrauterine device, contraceptive implants for both men and women, and an immunological approach to fertility control—a contraceptive vaccine developed at the All-India Institute of Medical Science, which is also assisted by the Foundation.

Still, it is recognized that fertility control will not be brought about by the efforts of biomedical scientists alone. More effective family planning depends on improving out-reach programs that make services available to men and women already motivated but ill-informed, and on better understanding of social, economic, and cultural forces

*A major Foundation-assisted international review of advances in reproductive science research and contraceptive development over the last two decades has been completed. The findings and suggested subjects for future support will be released in 1976 through a policy report entitled, *Reproduction and Human Welfare: A Challenge to Research* (Cambridge: MIT Press), another volume of forty scientific essays, and through articles in professional journals and general interest publications. The review was conducted by a team headed by Dr. Roy O. Greep of Harvard University.

that may stimuate or weaken motivation. The interaction between population dynamics and economic development must be better understood. Much depends on the overall environment in which individual decisions about family size are made. Difficult policy alternatives must be explored: e.g., if child labor can be reduced by extending compulsory education, will fertility decline? Can the status of women be altered so that self-esteem no longer depends so much on the number of children they bear?



Centers: A Vital Web

In these tasks population studies centers play a major role.

To date Foundation core support of population studies centers totals approximately $31 million, and accounts for about 15 per cent of the Foundation's overall commitment to the population field. The objectives of this support are:

—to increase the competence of developing nations to analyze population problems and recognize ways in which they affect and are affected by economic and social development;

—to identify the social determinants of population growth, distribution, and composition, and, explore the relations between population policy and other areas of social and economic policy;

—to encourage new initiatives in family planning, the use of modern management methods, various distribution systems, and improved communiciation techniques.

This report deals mainly with population centers in the United States because they are older and more experienced than most others, because to date many of the world's population specialists have studied there, and because much of the original research in demography, population dynamics, and family planning has been produced by their scholars. However, in the last decade population centers have

also been developing rapidly throughout the world. The Foundation supports twenty-five of them in Africa, Asia, and Latin America, partly through assistance to the Population Council and also by direct grants. For example, the Institute of Population Studies at Haceteppe University in Turkey, one of the more advanced centers for graduate research and training, has produced important demographic data, monitored and evaluated family-planning programs, analyzed Turkey's program for delivering intrauterine devices, and evaluated trends in contraceptive practices and attitudes. Among its recent research projects are studies of the causes and consequences of urbanization and the interrelations among medical practice, birth control, and family health.

Close working ties have been developed between American centers and developing countries, particularly in Asia. For example, the Population Research Center of the University of Chicago helped the University of the Philippines establish a Population Institute in 1964. The two centers have since collaborated in a national demographic survey that provided basic information about fertility, internal migration, composition of the labor force, and social mobility. Its purpose was to establish a benchmark for measuring changes in fertility. The field work was carried on with Foundation and U.S. government funds.

Population trends are far from inconsequential in the richer, more developed industrialized parts of the world. In the U.S., for example, the migration of the poor from the rural South to large cities brought about major social changes. And in spite of the legalization of birth control and abortion, they continue to be subjects of public policy debate. Still, the predominant concern with population dynamics focuses on the Third World. The poorest countries have registered the most spectacular population gains in history and are likely to continue doing so in the decades ahead.

Many less-developed nations are concerned with the effects of population growth on the quality of life, and some thirty-five countries have official programs aimed at decreasing fertility. Even where population problems are given low priority by officials, concern among private organizations and individuals is mounting. Although the initial spur in population work a quarter century ago came from

the West where fertility had already declined, concern and action now are shared by the Third World as well.

Population studies centers in the U.S. contribute substantially to work in the developing nations. Government agencies, research and training institutions, and family-planning programs of the developing world collaborate closely with such American institutes as the University of Michigan's Population Studies Center and the Carolina Population Center (at the University of North Carolina). Students and civil servants from the developing nations seek the knowledge, skills, and the prestige of degrees or certificates from institutions like Brown University's Population Studies and Training Center or the University of Chicago's Family and Community Studies Center. Centers like the Princeton Office of Population Research focus on worldwide issues and engage in research directly related to the Third World. Other U.S. institutes, like the University of Chicago's Population Research Center, emphasize cooperation among developing nations in the study of regional conditions and problems. The Center for Population and Family Health at Columbia University, working in Latin America, Asia, and Africa, concentrates on family-planning evaluation with a view toward improving program management.

Education and Training

As awareness of population issues increases throughout the world, the study of demography is becoming a much more popular academic pursuit. Demography is usually tied to university departments of sociology or economics and sometimes to both. In the United States graduate work in the subject was first offered in 1936, when the Princeton University Office of Population Research was founded. (Undergraduate training had been available earlier, but only at the Scripps Center for Population Studies at Oxford, Ohio.)

Today, the Princeton Office, headed by Professor Charles Westoff, is primarily concerned with research, although instruction has been expanded in recent years partly because of Foundation support for additional courses. A small staff, drawn from the university's departments of sociology, statistics, and economics provides rigorous training for doctoral candidates in the three parent disciplines. In addition, visiting students, like Dr. Olukunle Adegbola, the young geographer from Nigeria, are enrolled for special one-year, non-degree courses.

Because of the stature of the Office of Population Research a number of the world's leading demographers have studied there. More than 100 students from the Third World (twenty from India alone) have been visiting students. Many came, as did Dr. Adegbola, on Ford Foundation fellowships, and almost all of them are concerned, as he is, with the dimensions of population growth.

Population Dynamics. The growth rate of a population represents the difference between fertility and mortality (assuming no significant net migration). When births and deaths balance, the population has zero growth. And, for just about all of mankind's history, right up to the beginning of modern times, high birth and high death rates everywhere caused humanity to increase at the miniscule average rate of about two-thousandths of a per cent (.002 per cent) a year. Today, the world's annual growth rate is one thousand times greater—2 per cent.

Demographers maintain that in the long run only an average population growth rate very close to zero is possible. Obviously, a population cannot continue very long with a birth rate lower than its death rate without eventually dying out. Equally impossible is the long-term maintenance of a birth rate much greater than the death rate, for the implication would be a population of physically impossible size. As an example, Dr. Ansley Coale of Princeton cites the 2,000-year period ending in 1964. During that time, humanity multiplied twelve-fold, from 250 million in Caesar's day to 3 billion. Not only did the numbers increase during this period, so did the annual growth rate, which had reached 2 per cent by 1964. But suppose the 2 per cent growth rate had held for all of those 2,000 years. By 1964, world population would have been five quadrillion times its actual size.

Thus, population growth cannot persist indefinitely. But population booms can and have lasted a long time. It took about a century for Europe to get through its "demographic transition"—the shift from high birth and death rates to low birth and death rates. National growth rates of from 0.5 to 1.5 per cent annually were registered once Europe's mortality began to decline and before there was any corresponding drop in fertility.

The conditions that diminished mortality in 18th and 19th Century Europe evolved gradually, but the life-prolonging capacities of today's less developed nations were acquired rapidly. Vastly improved medical and public health services were introduced in a few decades. Mortality fell sharply, but continued high fertility escalated rates of national growth to levels as high as 3.5 per cent a year.

Not only do nations with declining mortality and steady fertility grow larger, they also experience other changes. Most important to demographers is what happens to their age structures. As the death rate falls, life expectancy increases, but average age does not. Indeed, if anything the population becomes somewhat younger because reduced mortality conditions have greatest impact upon infants and small children; they also tend to raise fertility by improving the chances of female survival to reproductive age and reducing the incidence of widowhood.

Since as many babies are born per adult as before and many more survive, developing countries end up with a ratio of children to adults larger than when their death rates were higher, and twice as large as in industrialized countries, which have low birth rates. This outsized and relatively nonproductive segment of the population—which, in terms of nutrition, health care, education, and housing, is a great consumer of services—only compounds the nation's already serious problem of caring for more citizens each year.

By improving health care, nutrition, and sanitation, humanity has been able to dramatically reduce mortality. But fertility patterns are slow to respond, since they are deeply ingrained in the social norms of society. An additional factor slowing the decline of the growth rate is the momentum of population increase that results from the youth-tilted age structures of growing nations. As children reach maturity,

the proportion of potential parents increases and keeps the nation growing, even after fertility rates have declined substantially. In fact, it takes at least sixty to seventy years before the force of this population momentum can be dissipated.

Demographic Training. Much of the training at Princeton is in formal demography, dealing with the interaction among fertility, mortality, and growth and age composition of populations. There are stiff doses of historical demography and sociology, and of mathematics. Nigeria's Dr. Adegbola was enthusiastic about it all. "Every course was useful," he maintains. "But perhaps the most useful were the mathematics and statistics." (To add to his research skills, Adegbola spent the summer of 1975 at the University of Michigan studying survey techniques.)

Among the more practical capacities that students from developing nations take home from Princeton is the ability to make vital demographic measurements on the basis of faulty or incomplete data, which are often all that are available in their countries. Dr. Coale is co-author of the United Nations manual, *Methods of Estimating Basic Demographic Measure from Incomplete and Inaccurate Data,* and he spends considerable effort teaching his students methods by which inaccurate census information or sample surveys can be used to determine birth and death rates in countries where registration of vital statistics is spotty or inaccurate.

The techniques developed at Princeton use model life tables (giving death rates for different age groups) to estimate both mortality and fertility. As Coale explains, "Growth and structure of populations are affected by the way mortality occurs in different age groups." For example, he notes that when national mortality is high, it is highest for infants and the elderly. By comparing the model life tables with age distribution in a sample census of 10,000, demographers can determine a nation's birth and death rates. These results can be further checked by another means of estimation, which measures infant mortality alone. Using a third approach, it is possible to discover the rates at which women of various ages bear children.

Surveying the population by means of a sample and analyzing the results can be tricky procedures, loaded with statistical pitfalls. Coale

warns his students specifically to be wary of errors caused by "age heaping," the tendency of people to reply in round numbers when asked their age.

A major part of Adegbola's work at Princeton centered on a common error in the tabulation of demographic data from Africa. As he describes it, average numbers of children per women had been calculated after eliminating from analysis the women who did not reply at all when asked how many children they had borne. Adegbola devised a procedure to estimate how many of the women (often a majority) whose answer was listed as "not stated" had, in fact, no children at all. This approach produced significantly different results from the same data.

Adegbola's plans for work when he returns to Nigeria are uncertain. One possibility is a collaborative effort between Princeton's Office of Population Research and Nigeria's Federal Office of Statistics to analyze patterns of fertility in Nigeria. "I know the Federal Office has collected much of the data," says Adegbola. "But, before I came here, I didn't know how the data could be used."

Formal demography is part of the basic training in most U.S. population centers that concentrate on the social sciences. However, many of these centers also stress the social and economic causes and consequences of population change. This is true at Brown University's Population Studies and Training Center where migration and urbanization, as well as fertility, mortality, formal demography, and a wide range of other demographic concerns are part of both the curriculum and the research program. Course work at Brown is augmented by research experience gained in the Center's Population Research Laboratory, which provides staff and students with census data, vital statistics, and sample survey materials (some collected through longitudinal studies of Rhode Island households). These have been extensively used to gain insights into changes in migration, fertility, and health in Rhode Island, nationally, and in a number of less developed countries. According to the Center's director, Professor Sidney Goldstein, the Rhode Island sample survey has proven particularly valuable. It not only gives students firsthand research experience, but it also provides an opportunity to assess in depth patterns of change that,

because of the state's economic and social characteristics, often seem to occur earlier in Rhode Island than elsewhere in the nation. Providence, for example, was one of the first large U.S. cities to experience a population decline.

Other U.S. centers offering demographic studies and the social science view of population are located at the University of Michigan, the University of California (Berkeley), Georgetown University, the University of Pennsylvania, the University of Chicago, and Cornell University. In Europe, the Foundation provides support for a training program at the London School of Economics. The London School's Population Investigation Committee offers a one-year master's degree program, specifically developed for Third World students, that stresses census-taking and analysis. Some 130 students, mostly Asians and Africans, earned the master's degree between 1965 and 1973, the great majority of them government workers who returned to research posts in their home countries.

Population Communications. In 1972, Lina Bellosillo, a psychology graduate of the Philippines Women's University who had been doing research on juvenile delinquency, became responsible for a new family-planning information program for the Philippine government's Department of Social Welfare.

As one of the many public and private family-planning activities coordinated by the nation's Population Commission, the new program planned to use social workers from the Bureau of Child and Family Welfare for "outreach and motivation." As Ms. Bellosillo puts it, "Our program is information, education, and communications, not clinical. It is charged with spreading the word, not distributing the hardware." She lists her own duties as "training, evaluation, and identifying target and problem areas."

Predictably, the family welfare social workers ran into competition from agencies already in the population field. More serious was the difficulty social workers and their paraprofessional aides had incorporating the family planning assignment into their other responsibilities. For a long while, they tended to divide clients into two caseloads, dealing with the child or family problems of one group while urging

smaller family size on the other. It took time and considerable training before the two missions were integrated. Now, birth control comes up regularly in discussion groups on family life. Women having budget troubles or problems with their children are encouraged to start thinking about limiting family size; family planning is now a part of just about every client contact. Women identified as "satisfied acceptors" are recruited as volunteer aides, and the bureau organizes clubs for both women and men who have been encouraged to try birth control.

After two years, Ms. Bellosillo was ready for more training: "I felt I needed more background in research and in behavioral psychology." The Family and Community Studies Center at the University of Chicago was well suited to her needs. Here formal demography takes second place to training in the practical techniques basic to family-planning programs.

The center's goal, flatly stated, is to "help the developing nations of the world reduce their birth rates in the fastest possible time." Students may focus solely on research and evaluation, learning the principles of social psychology, statistics, research methodology, and computer technology. Or they may concentrate on communication, family-planning management, or education.

In the fall of 1974, Lina Bellosillo arrived at the Chicago center on a Ford Foundation fellowship and began working towards a master's degree in "communications for social development." Since then, she has taken courses in social science theory and mastered the research methods needed to evaluate her program in the Philippines. "Previously," she recalls, "I'd been doing a trial and error thing." Concentrating on communications, she has studied ways of analyzing groups of contraceptive users, of pre-testing information and education materials, and of discovering the preferences of individuals and groups who participate in the programs.

What she found most interesting was developing her own materials at the center's communications laboratory. Although her program is a major distributor of family-planning materials—films, posters, and brochures—Ms. Bellosillo had little influence on their production prior to her studies in Chicago. At the communications lab, profes-

sional writers, photographers, designers, and filmmakers helped her discover ways in which her program's materials could be improved.

When assigned to produce an entire communications campaign, including film and radio shows, posters, and printed matter, she decided to focus her efforts on one of the obstacles cited by the center staff as a barrier to progress in family-planning: The failure of most family planners to spell out for clients how contraceptives can enhance their lives right away.

"Most often," she says, "family-planning materials deal with long-range benefits, like a better standard of living, improved health for the mother, and avoiding overcrowding. One thing they seldom talk about is improving sex life. But I believe it's very effective to say things like, 'there'll be no more anxiety, no more worry, because you're now *safe*.' "

Ms. Bellosillo has returned to the Philippines more confident of her research skills, and she hopes "to upgrade the quality of evaluation and research in the program." She also intends to play a larger role in the production of communications materials.

Chicago's Family and Community Studies Center, one of the U.S. population institutes best known to family planners in the Third World, trained more than 1,000 professional and sub-professional workers from abroad in fertility and family planning, communications, research, administration, and evaluation at special summer sessions between 1963 and 1973. The present summer program offers advanced work to senior personnel in research, evaluation, and communications. Smaller short-term workshops, many supported by the Ford Foundation, are now held overseas. During 1973 and 1974, workshops in Thailand, Bangladesh, and Indonesia trained family-planning workers in social research methodology, including the use of computers in fertility studies.

Other U.S. institutes that provide training in family-planning communications as well as other aspects of population work are at Cornell, Michigan, North Carolina, and Harvard.

Managing Family Planning. Abdul Hassan, an administrator for Egypt's Family Planning Board, went to the University of North Carolina

on a Ford Foundation fellowship in 1972. Hassan's work was supervised by faculty in the Department of Health Administration. He also participated in activities sponsored or coordinated by the Carolina Population Center, the largest of the U.S. population institutes. More than 150 faculty members are involved in population studies, and population-related courses are taught in the Schools of Public Health, Education, Nursing, Business, and in ten departments in the Graduate School of Arts and Science.

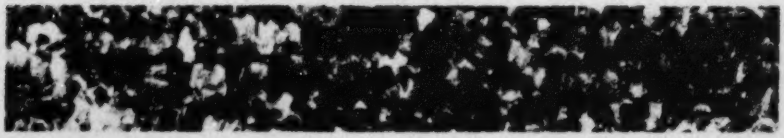
Hassan completed a doctorate in health administration before returning home, where he went to work in that section of the Family Planning Board charged with preparing Egypt's annual and five-year population plans. His studies related population issues and the application of management methods—planning, organization, budgeting, and staffing—to family planning programs. Much of the course work at North Carolina involves case studies and computer games based on actual situations and real problems of organization or resource allocation. With students from all parts of the world enrolled at the school, there is a constant interplay of ideas and a sharing of experiences. Faculty members consider part of their job to be "to shake people up, get them to realize that the way they think about problems may not be the only way." After exposure to this process, Hassan became convinced that family planning in Egypt would be more successful if there were wider participation in decision making. He hoped to bring discussions of population problems down to village councils, close to the grass roots. "If people really understood what population growth costs Egypt, if they could see what it means in their lives," he said, "then family-planning would be accepted far more readily than it has been."

The Department of Health Administration, where Hassan studied management, is part of the School of Public Health, which houses much of the North Carolina population training program. Also within the school, the Department of Biostatistics teaches population measurement and other demographic skills, and the Department of Epidemiology is concerned with general population theory, community health, and such aspects of family planning as pregnancy, reproduction, and acceptance of birth control. The Department of Health

Education trains students in the use of communication techniques to introduce change—specifically to encourage family planning as a means of improving health and family life—and the Department of Maternal and Child Health deals with population and family-planning concepts as they relate to women of child-bearing age and their children.

The Carolina program, once largely oriented to population studies as a health science, now has a majority of students who are pursuing graduate degrees in sociology, anthropology, psychology, economics, and other social sciences. In 1974, more than 100 graduate students (about one-quarter from developing countries) were enrolled in the center's training programs. Half of its graduates work overseas, and one-third hold policy-making posts in government population or family-planning agencies.

Population institutes at the University of Michigan, Johns Hopkins, Columbia, Harvard, and Tulane also provide training for family-planning administrators.



Service to Developing Nations

Part of what population studies centers do affects the developing nations only indirectly—through training, research, and publications, as well as participation in worldwide studies, international conferences, and the programs of international agencies. But most U.S. centers undertake specific overseas projects as well. They help evaluate family-planning and information programs, analyze census data or study demographic change, and test or demonstrate new techniques.

Perhaps the most productive efforts of the U.S. centers have been long-term collaborations with institutions and governments in the Third World. The strongest of these, the Michigan-Taiwan connection, has been sustained since 1961 between the Population Studies Center at the University of Michigan and the population institutions of Taiwan.

Collaboration Abroad. Taiwan is nearly an ideal demographic laboratory. The pace of modernization has been brisk there, and the nation clearly has reached the point at which social and economic conditions have begun to offset fertility. Demographers have studied Taiwan intensively, seeking to learn both how natural forces cause fertility to decline and how social intervention by family-planning programs affect that process.

Results of the joint research efforts by Michigan-Taiwan teams have been published in two dozen "Taiwan Working Papers." The papers, along with articles in various journals, have become handbocks for population scholars throughout the world. From the beginning U.S. researchers worked closely with Taiwan's Center for Population Studies as well as such agencies as the Taiwan Population Center/ Provincial Institute of Family Planning, the Taiwan Civil Affairs Registration Department, and the Academia Sinica. Recently, the fourth island-wide sample survey of fertility and family planning (a follow-up of surveys in 1965, 1967, and 1970) was conducted jointly by the Michigan Center and the staff of the Taiwan Committee on Family Planning. In another study, of fertility trends in different educational strata, the Michigan center worked with the Ministry of the Interior. As noted by Professor David Goldberg, the Population Studies Center's director, the growing capacity of Taiwan's own population specialists may prove as valuable a product of the Michigan collaboration as the studies it produced. The staffs of Taiwanese agencies now have all the skills, knowledge, and experience they need to carry on without help from their Michigan mentors.

Another long-term collaboration, beginning in 1965, took place between Michigan's Center for Population Planning and the National Planning Board of Malaysia. It has included joint ventures in training and research, including two major studies — a nationwide fertility sample survey and a national follow-up sample survey of women who had accepted contraception. Outside Malaysia, the Michigan group has cooperated on studies in India, worked with Latin American institutes, and assisted the government of Nepal to develop and evaluate a national family-planning program.

Many U.S. centers also have strong informal ties with centers over-

seas. Often, faculty at the overseas center have been trained at the U.S. institute. Such a relation, between the Population Research Center at the University of Chicago and the University of the Philippines Population Institute, has led to joint enterprises in family-planning evaluation and fertility studies. In addition, Professor Philip M. Hauser, director of the Chicago center, collaborated in the formation of Asia's Organization of Demographic Associates, and the Chicago center works with ODA in such projects as a study of underutilized labor in the region.

U.S. centers can also provide assistance to population programs in developing countries without actually undertaking projects overseas. For example, the Family and Community Studies Center at the University of Chicago supplies materials for planning evaluation. The center has designed easily applied evaluation methods and publishes manuals to teach family-planning workers about subjects ranging from demographic analysis to how to conduct and analyze interviews. The center also produces a series of computer programs that can be used by researchers who have limited technical training and access to only rudimentary computer services.

The most extensive overseas commitments among U.S. centers have been made by the Carolina Population Center. Active in Africa, Latin America, the Middle East, and Asia, the center is involved in establishing local population institutes and improving family-planning program management.

Many of its efforts to help developing nations build their competence in population training and research have been supported by the United States Agency for International Development (AID). In Africa, the Carolina team helped launch a regional center for demogaphic studies at the University of Ghana. Designed to serve all English-speaking West Africa, the center offers fellowships to African scholars and short-term training to government officials. It also provides technical assistance and research to Ghana's national family-planning program.

The Carolina Center has also worked with African medical, nursing, and midwifery school faculty to help them develop self-instructional teaching materials on population and family-planning topics. In Latin

America, it is helping to create a multidisciplinary population program at the Pontifical Javeriana University at Bogotá, Colombia. The center has surveyed Third World universities for AID and suggested ways to improve present methods of starting up new population institutes. This project involved the creation of an information network linking twenty-five university programs in Asia, Africa, Latin America, and the U.S. for the purpose of exchanging information on an ongoing basis and collaborating on common problems.

Teaching Cases in Population. With Ford Foundation support, the Carolina center is helping Third World family-planning agencies cope with management problems. These agencies are hampered by many of the same problems that confront other public programs in the developing nations: inadequate resources, a shortage of trained administrators, and systems of staff selection and promotion too often based on political rather than technical qualifications and performance. Obstacles also are created in some agencies by obsolete management styles.

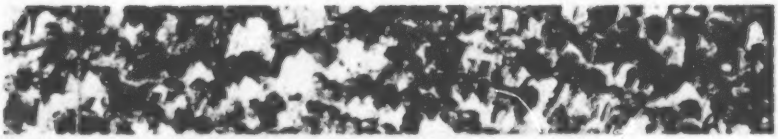
But, family-planning agencies also have unique problems. Most programs are new and their goals and functions rarely clear from the outset. The field is complex, technology is changing, and agencies are expanding rapidly. Furthermore, these agencies need strong decentralized field organizations, which are always difficult to control and evaluate, and program managers most often have medical rather than administrative training.

To help developing countries with these problems, the Carolina center provides consultation, training, and research materials for family-planning agencies through its Foundation-funded International Project in Population Program Administration (IPPA). One activity of IPPA, known as POPCASE, uses case studies in population the way law schools and some schools of business administration use case studies, as the backbone of their teaching programs. Some of these teaching cases in population are then selected, edited, and published by the university's Department of Health Administration. The cases run from two to twenty pages, but each deals with a management problem common to many countries.

The problem taken up in one case, for example, concerned a man who had had a vasectomy. He had been persuaded to have the operation by a paid agent of the family-planning administration, had not been adequately instructed about the procedures to follow after the operation, and he had not been given time to inform his wife beforehand. As a result his wife imagined dire consequences from the operation and his family life was subjected to unusual strain, he developed minor complications because he failed to follow the doctor's instructions, and he lost time at work going back and forth to the clinic for treatment, which he had been told would be free but in fact he had to pay for. The lesson was clear: a program's acceptability can be damaged by inadequate preparation of the patient and his wife, by poor follow-up of each case, and by bad management of post-operative treatment.

Most POPCASE cases have been developed overseas at such management institutes as the Administrative Staff College in Hyderabad, India, and the Asian Institute of Management in the Philippines. Besides publishing and distributing teaching cases, the Carolina center produces data book simulations that make it possible to use computer "games" to train administrators. It also packages short-term training programs.

Annual POPCASE workshops at the University of North Carolina bring together family-planning administrators and faculty from Third World management institutes. Workshop sessions deal with such management issues as leadership style, working with funding agencies, and procedures for planning complex projects. Among other things, the workshops provide an oportunity for informal discussion of common problems and the development of strategies. One such exchange, during the 1972 summer workshop, helped lead to the creation of the International Committee on the Management of Population Programs (ICOMP). With membership limited to directors of family-planning programs and representatives of several management institutes, all from the developing world, ICOMP is designed to increase program administrators' concern for management problems and to give them a greater voice in shaping research, training, and consultation to overcome these problems.



Research

Initially, research was the primary focus of U.S. universities in the population field. At the Princeton Office of Population Research future problems in what are now called the developing nations were spotted before World War II. Frank Notestein, the first director of the office, predicted the swift decline in mortality and the much slower decline in fertility that eventually produced rapid population growth in these nations. Notestein's concern prompted a whole generation of researchers at Princeton to undertake comprehensive national studies. Among the studies were Ansley Coale's on Mexico and India, Kingsley Davis's on India, and a monumental work on Japan by the late Irene Taeuber.

Learning from Europe? Today, a major research concern of the Princeton office is not only future population developments but also those of the past. The European Fertility Study, under way for ten years and involving an international corps of scholars, is attempting to fathom the dynamics of Europe's demographic transition. Discovering how fertility declined in Europe may give insight into ways it can be brought under control in Africa or Asia.

Until well into the 18th century, Europe's population growth rate appears to have been low, averaging perhaps .25 per cent per year between 1500 and 1700, and about .42 per cent per year between 1700 and 1750. Short-term population gains in one country or another were soon cancelled by famine or disease. But gradually, mortality began falling in Europe. Improved living conditions, better sanitation, and an unexplained reduction in the virulence of such epidemic diseases as bubonic plague and smallpox are all credited with helping lower death rates. Also contributing to the decline was the increase in

Europe's food supply, which was partly the result of widespread cultivation of vegetables, particularly the potato, that were imported from the New World.

Since there was no equivalent drop in the birth rate, Europe's population boomed. Between 1750 and 1850, the number of Europeans doubled. Relieving part of the population pressure was the stream of migrants that left the Old World for the New and for Europe's overseas colonies. Emigration was spurred by political and economic crises as well as by agricultural failures (e.g., the Irish potato famine) that afflicted the continent during the 19th century.

It was well after the middle of the 19th century that fertility in most of Europe began to decline. Conventional wisdom holds that it was caused by such factors as industrialization, urbanization, compulsory education, and the greater expectations that more modern parents had for their children. But then, researchers wonder, why did it start where it did—in France? Why would a Catholic nation with a large peasant population and sluggish industrial development be the first to show a downhill slide in fertility? Only much later did England, front runner in the Industrial Revolution, rapidly becoming both urban and modern, experience a similar drop in its birth rate.

As results of the present European study come in, it is possible to get more precise demographic readings on what was happening during the 19th century. In Germany as a whole, for example, national fertility seems to have declined at the same time as infant mortality did. But at a local level this was not the typical experience. Some areas registered a lower death date for infants while births remained high. Others saw births fall first while infant mortality went unchanged.

For purposes of the survey, the cultural, economic, and social influences on fertility have been examined for each of the more than 700 provinces of Europe. When researchers examine each area individually, they find such anomalies as the Garonne Valley of France, where fertility started to drop either late in the 18th century or early in the 19th, a time when infant mortality was still high and the Garonne was no more advanced socially or economically than any other part of rural France.

The evidence points increasingly to the importance of cultural influ-

ences on fertility. A map depicting marital fertility by province in Spain in 1910 was interpreted by a professor of romance languages as a linguistic map of the country. The regions that experienced similar changes in fertility were those in which the same language was once spoken. Linguistically separate Catalonia, for example, registered an early reduction in fertility that was not shared by the Spanish-speaking districts on its borders. Nor was there any difference between what was happening to birth rates in Catalonia's major city, Barcelona, and the Catalan-speaking rural areas about it, even though differences in other aspects of city and country life were profound.

Some fascinating indications of what may trigger or inhibit changes in the birth rate have been noted by survey researchers. In Italy, a correlation was found between the size of the pro-divorce vote in the 1974 election and birth rates thirty years earlier. Areas strong for divorce had registered the lowest fertility. In Belgium, the correlation linked births between 1890 and 1910 with the results of a 1919 election. Where socialist candidates won, the greatest decline in fertility had occurred. One implication of these findings is that economic development may not be the only or even always the strongest influence on fertility. Cultural factors seem to be equally potent.

Economic Factors. When birth rates declined in Europe, they also fell in the rest of the industrialized world, until some populations began to experience low rates of growth. This continued in most of the West until after World War II, when post-war baby booms occurred in four countries—the United States, Canada, Australia, and New Zealand. Just why fertility jumped when and where it did is one of the mysteries that tantalize demographers.

The most likely explanation is an economic one. Children in Western countries are not considered financial assets to their families; rather they represent substantial economic obligations. Parents must spend money to have, raise, and educate children—money that is not then available for other purposes. In the post-war world, Canada, Australia, New Zealand, and the U.S. were among the few industrialized nations with their economies intact. Family incomes were large enough to allow for luxuries like more children.

At the University of Pennsylvania's Population Studies Center, Professor Richard Easterlin suggests in his "Theory of Household Choice in Fertility" how the economic decision to have children is made by parents. Easterlin, who is an economist-demographer, postulates that the parents of the U.S. baby boom had been raised during the Depression and were not conditioned to heavy consumption. During the war and afterwards, they found themselves earning considerably more money than their parents had, and they invested that extra income in children. But by 1960, according to Easterlin, parents no longer came from a materially deprived generation. They had grown up in the nation's post-war affluence and were not inhibited about spending money on such items as cars, homes, and hobbies rather than children. Later, when times got harder, U.S. parents made economic decisions that further reduced birth rates.

Easterlin's theory goes a long way toward explaining that lump in the nation's age structure that, as one sociologist recently noted, "is passing through the population like a pig swallowed by a python." But for data on the more recent decline in U.S. fertility, demographers must turn to the National Fertility Survey, an enterprise of the Princeton Office of Population Research.

The 1970 National Fertility Survey was the fourth in a series. More than 6,700 women answered questions about their use of contraceptives, their pregnancy history and future child-bearing plans. A team led by Professors Charles Westoff and Norman Ryder analyzed the results. They identified what has since been called "the contraceptive revolution" in the U.S.—widespread acceptance of voluntary fertility control and a certain shrinkage in desired family size. The survey indicated that reduction in unwanted births was responsible for about half the fertility decline between 1965 and 1970. (The decline in unplanned births—both unwanted births and failures in timing—accounted for almost all of the decline in marital fertility during the 1960s.)

Motivation in Contraception. Although the number of unwanted births in the U.S and the reduction of that number by more widespread acceptance of contraceptives are of great interest to demographers, the factors affecting fertility in Taiwan, the most carefully

studied of the Third World nations, may be far more significant in terms of world population pressures. And fertility is also falling there, according to data that the University of Michigan's Population Studies Center has been collecting and analyzing for nearly fifteen years.

Two big questions answered by the Taiwan studies are which women are most willing to accept contraception, and how effectively "acceptors" use their birth control devices. Center researchers have documented that fertility is most likely to decline among women who already have all the children they want. This group, many of whom have already borne four or five children but are capable of bearing two or three more, most readily agrees to try contraception. A follow-up study of women who had accepted intrauterine devices (IUD) revealed that the likelihood of child-bearing remained low for these women. Even though more than half of them had either expelled their IUDs or had them removed, they continued to be motivated to limit their families. Some of those who gave up or lost these devices apparently turned to other means of contraception or to abortion, and many eventually went back to the IUD.

Michigan data also show that the availability of family-planning services in Taiwan has practically eliminated class differences in the use of contraceptives. Upper-class families were once far more likely to use them than were lower-class families. A more recent discovery, in a 1973 survey, indicated a desire for smaller families. Apparently, the number of children considered ideal in Taiwan has begun to drop, and a Michigan-Taiwan team is now attempting to discover which groups are setting this trend and which factors have influenced their change of attitude.

To many students of population, the most vital information to come from Taiwan deals with the question: "How can you tell whether a family-planning program can be credited with a decrease in fertility or whether the decrease is due simply to modernization and education?" Seeking the answer, the Michigan demographers undertook an analysis of all the available and relevant data and concluded that the number of women accepting contraception does correlate strongly with the efforts of family-planning agency personnel. Outreach and information programs do have a demonstrable impact, according to

the study, and the desire to limit family size often went unfulfilled in parts of Taiwan where agency services were unavailable. Contraceptive "self-help" was shown to be no substitute for the program, and this finding was particularly evident in rural areas and among older couples.

One of the demographers working with the Michigan team on Taiwan data is Professor Robert Potter of Brown University's Population Studies and Training Center, where computer studies measure the impact of family-planning programs upon fertility. A recent project done at Brown for the Population Division of ESCAP (Economic and Social Commission for Asia and the Pacific), a regional agency of the United Nations, involved analysis of data from several Asian countries to help family-planning agencies determine how great a reduction in births must be achieved to bring the growth rate down to where economic planners believe it should be in terms of a nation's social and economic progress.

Demonstrating how planning often goes wrong, Potter cites the example of one country determined to reduce its 3 per cent growth rate to 2 per cent between 1970 and 1981. The country's family-planning officials set a target birth rate of 29 births per 1,000 population, a full ten points below the 1970 rate of 39 and more than seemed necessary to accomplish a 1 per cent reduction in growth. "Not so," said Potter. Even if a 29 birth rate could be achieved it would leave the *growth* rate well above 2 per cent, for local strategists had neglected to take account of what would happen to mortality were family-planning efforts successful in reducing fertility. Cutting ten points from the birth rate would not only mean averting a considerable number of births but also eliminating from the population a substantial segment subject to high mortality: many infants and small children. As a result, reductions on the birth side would be partly offset by a sharp drop in mortality so that the net population growth would not drop as much as anticipated.

To estimate what it will take to produce a desired reduction in growth rates, Potter says, planners must consider all the factors that influence a nation's fertility. It becomes easier to slow growth by means of contraception when the marriage age is rising or the unmar-

ried portion of the population is increasing. It is harder when mortality is declining. And a family-planning program just cannot buck momentum. "It cannot reduce the number of potential parents who were already alive at the start of the program," says Potter. As more women reach childbearing age, they become "a potent force working against declines in birth and growth rates."

Part of Potter's research includes devising ways of determining statistically the number of "births averted" by any family-planning effort. Among the puzzles that must be confronted is to determine what the fertility of women who accept contraception would have been had they not chosen birth control. Equally important are "continuation rates," the proportion of women still taking pills and retaining IUDs at specified durations following acceptance.

Although abortion plays an important role in bringing down birth rates in some parts of the world (it is a major means of population control in Eastern Europe), Potter characterizes it as "inefficient when used alone rather than as a backstop to contraception." According to his calculations, an abortion averts only half a birth, for a terminated pregnancy provides no protection from further conception. Although a birth entails nine months of pregnancy and is frequently followed by several months in which pregnancy is unlikely, an abortion involves only two or three months of gestation and usually little or no protection from subsequent pregnancy. Hence, without contraception, the problem solved by abortion quickly reasserts itself; a woman rejoins the population "at risk" of conception after only two or three months.

Researchers from the University of North Carolina are now studying the health and demographic effects of induced abortion in Yugoslavia. The North Carolina group hopes to learn ways in which abortion may influence fecundity and the outcome of future pregnancies as well as the characteristics of women who decide to abort and those who decide not to at different stages in their reproductive lives.

Family Variables. Population scholars are interested not only in the means families use to limit their size but, increasingly, in aspects of family life that can influence fertility.

One effort in this direction was a study of "Sex, Culture and Fer-

tility" by Professor Moni Nag at Columbia University's Center for Population and Family Health, published in 1972. Comparing the frequency of coitus among residents of three Indian communities with frequency in the U.S., the Columbia researchers noted there was less sexual activity among the Indians than among the Americans, despite the popular notion that the lack of electricity and television in the Indian communities would have produced completely different results.

Reasons for the relative infrequency of coitus, explains Nag, include both lack of space and privacy in Indian homes, the number of young couples living with parents, and the notion, prevalent among Indian villagers, that the loss of semen is a loss of strength. Nag also points out that sexual abstinence is not uncommon in India and, in fact, is considered a virtue among Hindus.

More recently, the Columbia team reported on the economic costs and benefits of children in peasant societies. Results from Nepal, Indonesia, and Peru reveal that children as young as six can be economic assets. Six- and seven-year-olds fetch water, baby-sit, and care for barnyard fowl, freeing parents for more productive tasks. Youngsters not much older tend sheep or goats and herd cattle, and they sometimes even hire out for wages.

Parents in peasant societies, according to the Columbia study, want children not only for the immediate financial contributions they make, but also as social security for old age. Although these parents may be well aware that the population is growing and having many children is, as Nag puts it, "not a good thing for the country," they see that neighbors with four or five living children are much better off than neighbors with only one or two. In addition, the pattern of reproductive behavior in the Javanese and Nepalese villages (with births spaced at an average interval of more than three years) enables the parents to achieve a relatively large number of surviving children while avoiding the extreme pressures on the household economy that would result from uncontrolled fertility.

Family size is unlikely to diminish in these peasant communities, he concludes, until the cost of raising children increases or until parents discover that money spent on the education of one or two children is a better investment for their old age than supporting a

larger number of more immediately productive but uneducated sons and daughters.

Another project investigating family variables and their effects on fertility is an ambitious eight-nation cross-cultural study of the reasons families want and choose to have children. Begun in 1972 with funding from the Foundation and several other agencies, the project is being conducted by an organization of Asian social scientists called the Committee for Comparative Behavioral Studies on Population. They are exploring the psychological and social factors as well as economic influences in family choices in Korea, Taiwan, Thailand, the Philippines, Indonesia, Turkey, Singapore, and the U.S.

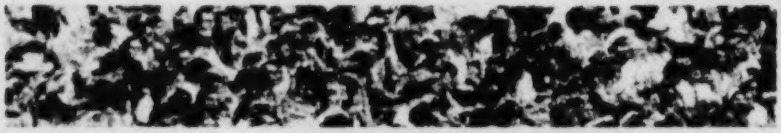
Urbanization. Although most research relevant to the Third World is directed toward discovering more about population growth and fertility, many studies address the problem of rapid urbanization, a growing concern of many developing nations. At Michigan's Population Studies Center, Professors David Goldberg and Baron Moots have produced some unexpected findings from their work in Turkey and Mexico. They found that urban migrants to the shantytowns of Ankara and Mexico City make out as well economically as do city-born Turks and Mexicans. Living conditions in the shantytowns are deplorable by any standards, but they do not seem to perpetuate a culture of poverty. Families are not trapped there. Many stay just long enough to save the money they need for a better home. But others who could afford to leave choose to stay. Moots speculates that it is the extremely inexpensive form of housing available in shantytowns that may help migrants adjust to the urban economy, an adjustment that might not be possible had they to pay for more costly quarters.

At Brown University's population center, Professor Sidney Goldstein notes that the shantytown dwellers he has studied in Bangkok are not much different from those in Ankara and Mexico City as described in the Michigan research. "A high percentage report they are happy, much better off than they were before coming to the city, and optimistic," Goldstein says. "They don't understand why the government wants to eliminate Bangkok's squatter community."

Research on urbanization is a major commitment at the Brown

center. Its staff and students are, with Ford Foundation support, studying urban migrants in Korea, Indonesia, the Philippines, Taiwan, Thailand, Colombia, and Iran. Dr. Goldstein is also in charge of a twelve-nation comparative study of urbanization in both more and less developed countries. "We are interested," says Goldstein, "in the urban setting and its impact on people and on development. As people move into cities do they become more urbanized, more modern? Do they stay? And who stays? Do urban migrants bring urban life styles back to rural areas? Are they agents of change?"

Many of these questions were formulated while Goldstein was working in Thailand with the Institute of Population Studies at Chulalongkorn University. Most of Bangkok's citizens are migrants, hardly surprising in a city that grew from 700,000 in 1947 to some 3 million in 1970. But for every two migrants who come to the city, Goldstein discovered, one person leaves, attesting to the importance of assessing the separate effects of in- and out-migration and the potential role of migration as a catalyst of change in the smaller cities and rural places to which Bangkok's out-migrants move. He also noted that the percentage of migrants among city-dwellers, which is high among older residents, becomes progressively lower in younger age groups, evidence that much of the city's more recent growth may be caused by natural increase. As for the squatters, most are not interested in moving on but in settling down, gaining title to the land on which they have built, and being supplied with running water, sewage facilities, and other basic amenities such as schools and health facilities.



Looking Ahead

Because of the overall reduction in its budget, the Ford Foundation must limit "core" or institutional support in the United States to only a few population centers, while making available additional funds for specific projects in research, training, and evaluation. But the Foundation hopes to continue its support of social science research through the mechanism of research competitions. (Presently, the Ford and Rockefeller Foundations jointly sponsor a program of social science research that awards grants on a competitive worldwide basis for projects lasting as long as two years. There are similar regional programs in Brazil, Mexico, and Southeast Asia, the latter supported jointly by the Foundation and the International Development Research Centre of Canada.)

The Foundation intends to devote a larger proportion of its population funds to strengthening social science research in developing countries, and plans to undertake more initiatives like its present effort to help the Bangladesh Institute of Development studies acquire a capacity for population analysis. Although providing graduate training for social scientists in the developing countries is important, special attention must be paid to careers for trained persons. Except in economics, there are few professional opportunities available in the social sciences. Strong population institutions in the developing world are needed to provide a career base for social scientists and the chance to participate in major research studies.

The Foundation also plans to underwrite more research by regional networks of population researchers and institutions. It anticipates more collaboration by regional management institutes, like the Indian Institute of Management at Ahmedabad or the Asian Institute of Management in the Philippines, with the International Committee on the

Management of Population Programs (ICOMP) on management studies of family planning programs.

Future research is most likely to follow up current work on the determinants and consequences of fertility, alternatives in family planning, and more aggressive means of intervention. A notable example of research on consequences is the recently completed "Second India Study Series," initiated by the Foundation in 1973. The series assesses the impact of the 500 million additional Indians who will double that nation's population by the turn of the century and predicts the demands this "second India" will make on the country's social and economic life, its resources, environment, social services, and government.

Determinants of fertility—such as the status of women, age at marriage, income distribution, and family and community structure—are promising subjects for further scrutiny. Current reseach assisted by the Foundation includes a study of women's attitudes towards childrearing and a project relating fertility rates to women's self-image and feelings about children, both in the Middle East. There is already some evidence that changes in the role and status of women may affect fertility differently in developing nations than in industralized ones. Although employment of women generally tends to reduce fertility in the West, indications are that it may not necessarily have this effect in many parts of the Third World, where the extended family is a more dependable source of child care than are facilities provided by government or other outside agencies.

Although the "center of gravity" for research on population problems of the developing world must necessarily shift to scholars and institutions in those nations, the Foundation and, it is hoped, other sources of funding, will not turn away from the intellectual workers devoted to population studies in the industrial world. The latter continue to have much to offer their Third World colleagues in the development of formal demographic theory, techniques of measurement, research design, computer simulation, and other advanced tools with which to untangle the complicated relations between population dynamics and social and economic change. Institutions in the developing

world should be assisted in providing appropriate advanced training for their own people, but the demand by Third World students for specialized instruction in North American, European, and Australian universities continues unabated. At least some of this demand must be satisfied. Even at lower levels of support than in the past, the required funding is beyond the capacity of a single foundation or the universities themselves. The need calls for attention by the many governmental and philanthropic institutions that are concerned with understanding and coping with world population problems.

Appendix

Principal Grants to Centers for Research and Training on World Population Problems*

(1954—June 30, 1976)

UNITED STATES	
Brown University	
Demographic program at the Population Studies and Training Center (1972)	$ 250,000
University of Chicago	
Graduate research and training in population at the Community and Family Study Center (1966, 1969, 1971)	1,690,000
Research and training in demography at the Population Research Center (1963, 1968, 1972)	1,597,942
University of California (Berkeley)	
Support of the International Population and Urban Research Institute of International Studies (1968)	671,647
Columbia University (International Institute for the Study of Human Reproduction)	
Support of the Center for Population and Family Health (1966, 1967)	2,057,000
Cornell University	
Demographic research and training in the International Population Program (1962, 1967, 1970, 1973)	692,500
Georgetown University	
Support of the Center for Population Research (1960, 1963, 1966, 1971)	1,056,556
Harvard University	
Support of the Center for Population Studies (1964, 1967)	943,000
Johns Hopkins University	
Support of the Department of Population Dynamics (1964, 1969)	1,775,000

*Excluding grants in support of the reproductive sciences and contraceptive development

University of Michigan	
Support of the Population Studies Center (1961, 1965, 1969, 1971)	$ 4,500,000
Support of the Department of Population Planning (1965, 1968, 1973, 1975)	3,827,000
University of North Carolina	
Research and training at the Carolina Population Center (1965, 1966, 1968, 1971, 1974, 1975)	4,050,000
University of Pennsylvania	
Research and training in demography at the Population Studies Center (1961, 1967, 1973)	586,646
Population Council	
Research and training in demography (1954-1976)	13,750,000
Princeton University	
Support of the Office of Population Research (1965, 1967, 1970)	524,150
EUROPE	
London School of Economics and Political Science (University of London)	
Demographic training program of the Population Investigation Committee (1964, 1969, 1974)	670,000
ASIA AND THE PACIFIC	
Gandhigram (India) (Institute of Rural Health and Family Planning)	
Training, research, and evaluation for India's family-planning program (1964, 1969)	938,211
Government of Indonesia	
Support for National Institute of Public Health to create a research and training capacity in its Demographic and Social Science Division (1972)	158,500
University of Indonesia	
Training course at the Demographic Institute (1970-1975)	447,760
Government of Pakistan	
Research and training at the National Research Institute of Family Planning (1961)	533,374
University of the Philippines	
Support of the Population Institute (1964, 1967, 1970)	660,447

Population Center Foundation (Philippines)	
Study of population, resources, environment, and the Philippine future (1975)	$ 200,000
Cooperative Research Program (1975)	100,000
Population Council of India	
General support (1970)	67,000
University of Singapore	
Establishment of a center for economic and demographic research (1964)	194,000
LATIN AMERICA AND THE CARIBBEAN	
Center of Studies of Population and Development (Peru)	
Developmental support (1965, 1971)	332,193
Colombian Association of Faculties of Medicine	
Research and experimentation in population and demography (1965, 1967, 1971)	657,500
Costa Rican Demographic Association	
Training in population communications (1974)	[illegible]420
University of Costa Rica	
Research and training in family planning at the Center for Population Studies (1968, 1971, 1973)	446,000
Training in population communications (1972)	90,560
University of El Salvador (Argentina)	
Postgraduate course in Latin American population dynamics (1967, 1969)	350,000
Haitian Center for Research in the Social Sciences	
Research on family planning in Haiti (1972)	70,000
Latin American Demographic Center (CELADE) (Chile)	
Strengthening the center's regional research program (1968, 1971, 1975)	749,300
Latin American Social Science Council (CLACSO) (Argentina)	
Support of the Center for Population Studies (1975)	50,000
Social science research on Latin American population policies (PISPAL) (1972, 1975, 1976)	100,000

Mexican Institute of Social Studies	
Study and publications on family planning in Mexico (1966, 1968, 1969)	$ 259,937
Research and training in population studies and other applied social sciences (1970, 1972, 1975)	375,000
College of Mexico	
Establishment of a Center for Economic and Demographic Studies and development of the faculty (1963, 1966, 1967)	596,250
Pan American Federation of Associations of Medical Schools (Colombia)	
Support of the federation's Division of Population (1967, 1969, 1971, 1974, 1975)	473,740
Regional Population Center (Colombia)	
Research and training in population (1973, 1975)	517,000
MIDDLE EAST AND AFRICA	
Al-Azhar University	
Social science research on population issues (1976)	30,000
American University in Cairo	
Population research program at the Social Research Center (1968)	236,000
American University of Beirut	
Population studies program (1972)	80,000
Hacettepe University (Turkey)	
Research and training in population and demography (1967, 1970, 1974)	859,000

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